As an example of (1) above, a patient on whom I had performed bilateral carotid endarterectomies 8 years previously was admitted with multiple episodes of amaurosis fugax in the eye appropriate to an occluded external carotid artery, although that internal carotid artery and the contralateral carotid system were widely patent on angiography. Operation consisted of endarterectomy and closure of the external carotid stump, which contained thrombotic material compatible with a source for emboli, with no subsequent episodes of visual or other neurologic difficulties. As an example of (2) above, a patient experienced a stroke 3½ days after carotid endarterectomy associated with external carotid artery occlusion and extension of platelet-rich thrombus into the patent common carotid and internal carotid arteries, with embolization from it to the middle cerebral artery.

An occluded external carotid artery after carotid endarterectomy may represent a potential source for either chronic embolization or a site for extended thrombosis and embolization in the acute situation. In the latter instance, it may be difficult to ascertain the relationship, if any, between thrombus in the occluded external carotid artery and thrombus in the common and internal carotid arteries. The fine case report, which documents a use for transcranial Doppler scanning, also calls attention to a potential problem from an acutely occluded external carotid artery.

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Reply

To the Editors:

We thank Dr. Hewitt for his interest in our case report, and his point regarding the potential importance of thrombus occluding the external carotid artery (ECA) is well made. In our case, thrombus was found on the endarterectomy surface in the internal carotid artery (ICA) separate from the origin of the ECA. Thrombus was not found to extend from the ECA to the ICA, neither was thrombus projecting from the ECA into the ICA or common carotid artery. Therefore we concluded that thrombus had formed at the two sites independently.

However, the main point of our article was to highlight the ability of transcranial Doppler monitoring to provide direct evidence of particulate embolization to the territory of the middle cerebral artery from whatever source. The original site of thrombus formation may not be as important as the fact that the thrombus gives rise to significant embolization or results in a critical reduction in middle cerebral artery blood flow. Transcranial Doppler monitoring provides the surgeon with real-time evidence of both these parameters, enabling early reexploration of the artery, correction of the defect, and therefore the potential for preventing or minimizing neurologic deficits from this infrequent but often serious postoperative complication.

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Clinical trials a must

To the Editors:

The year 1991 was a landmark in vascular surgery. The North American Symptomatic Carotid Endarterectomy Trial (NASCET)[1] and the European Carotid Surgery Trial (ECST)[2] were completed and yielded clear evidence that carotid endarterectomy was the optimal treatment in patients with symptoms of carotid artery stenosis of 70% or greater of arterial diameter. Now, the news of the early completion of the Asymptomatic Carotid Atherosclerosis Study (ACAS) heralds another advance in our understanding of carotid artery disease. But even more important than the results of these trials is the fact that randomized, prospective, multicenter trials were applied to a vascular surgical problem. Never before has such an approach to a vascular disorder been undertaken.

The truth of the matter is that in the field of vascular surgery, investigation by clinical trials has lagged far behind other surgical subspecialties. In particular, surgical oncologists have championed the clinical trial for decades. From the early trials of lumpectomy versus radical mastectomy[3] to the present day trials of cancer immunotherapy, oncologists have long understood the power of the clinical trial. It is time for the vascular community to follow suit.

For the most part, the NASCET, ECST, and ACAS trials have concluded. Now is not the time for congratulating one another on a job well done. It is the time to take the momentum gained from these recent trials and to apply it to the many unanswered questions currently plaguing vascular surgery. As an example, one specific area that bears immediate investigation comes to mind. Recently, use of the "Taylor" anastomotic vein patch has become widespread.[4] Although I do not dispute the results of Taylor,[5] they represent a single-center and, for the most part, a single-surgeon experience. Although polytetrafluoroethylene with an anastomotic vein patch may be a useful adjunct to the more commonly used vascular conduits, the need for a multicenter trial is obvious. The application of this technique by the surgical community with expectations of a conduit panacea, however, only reinforces the commonly held view of vascular surgery as an anecdotal science. A clinical trial exploring the utility of such a novel and attractive conduit would require only a fraction of the effort involved in organizing the carotid artery trials. Although this is a single example, I dare say it would take little time to sight several more